

ERRATUM

Volume **175**, Number 3 (1995), in the article “On the Hilbert–Kunz Function and Koszul Homology,” by M. Contessa, pages 757–766: On page 757, line 4 from the bottom should read “ $A = K[[X_1, \dots, X_d]] \twoheadrightarrow R$, $X_i \mapsto x_i$, K being a coefficient field” On page 758, line 5 should read “the case where R is regular” and line 7 should read “By Monsky’s results (cf. [8]), $l_R(M/(X_1^q, \dots, X_d^q)M)$.” On page 759, line 1 should read “ $l_R(M/(X_1, \dots, X_d)M) = q^d \cdot (rk M)$ and $l_R(H_i(\underline{X}^q; M)) = 0$, $i \geq 1$,” and line 19 should read “the map $H_i(X_j^{n_j}; M) \xrightarrow{\sim} H_i(X_j^{n_j}; \overline{M})$ is onto.” On page 760, line 5 should read “ $R = k[[X_1, \dots, X_d]]$,” line 20 should read “reflexive modules over $k[[X, Y]]$ are free,” and line 27 should read “Let $0 \rightarrow T \rightarrow M \xrightarrow{\varphi} \overline{M} \rightarrow 0$ be an exact sequence.” On page 761, lines 13–14 should read “the image of \bar{u} in $T/(X^s T, Y^t T)$ is represented by $X^{s+1}a + Y^t(Xb) = X(X^s a + Y^t b)$,” and line 22 should read “where C is an integer ≥ 0 .” On page 762, lines 1–3 should read “By dérivage we may assume $M = R/\mathfrak{P}$ with \mathfrak{P} prime. When $\dim M \leq d - i$ the result follows from [10] (or [9, Lemma 2.6]),” and line 25 should read “ $H_1(X^{p^n}; M)$ has length independent of n for $n \gg 0$.” On page 763, line 12 should read “Fix $q_0 = p^{e_0}$,” line 15 should read “for all $q \gg 0$, $X_1^{q-q_0}m_1 + X_2^{q-q_0}m_2 + \dots + X_n^{q-q_0}m_n \in (X_1^q, \dots, X_n^q)$,” line 23 should read “we get $\forall j, \forall t, m_j - X_j^{q_0}w_j \in (X_1^{q_1-q_0}, \dots, X_j^{q_1-q_0}, \dots, X_n^{q_1-q_0})F$,” line 27 should read “In F we have $(m'_1 - w_1, \dots, m'_n - w_n)$,” and line 28 should read “Hence $(m'_1, \dots, m'_n) = (w_1, \dots, w_n) + \mathfrak{m}^{q_1}F^n \subseteq M^n + \mathfrak{m}^{q_1}F^n$.” On page 764, the displayed equation should read

$$\begin{aligned} H_i(X^q; M)^* &\cong \operatorname{Tor}_i^R(R/\underline{X}^q, M)^* \\ &\cong H_i(F_\odot \otimes R/(\underline{X}^q)) \\ &\cong H_i(\operatorname{Hom}_R(F_\odot \otimes R/(\underline{X}^q), E)), \quad \text{where } E = E(k) \\ &\cong H_i(\operatorname{Hom}_R(F_\odot, \operatorname{Hom}_R(R/(\underline{X}^q), E))) \\ &\cong H_i(\operatorname{Hom}_R(F_\odot, R/(\underline{X}^q))) \\ &\cong H_i(\operatorname{Hom}_R(F_\odot, R) \otimes R/(\underline{X}^q)) \\ &= \operatorname{Tor}_{d-i}^R(M^v, R/(\underline{X}^q)) = H_{d-i}(\underline{X}^q; M^v). \end{aligned}$$

Also on page 764, line 6 from the bottom should read “ M_1 is *torsion-free*,” and line 2 from the bottom should read “ $H_{i+1}(\underline{X}_j^{n_j}; M) \rightarrow K_{i+1}(X_j^{n_j}; D) \xrightarrow{\vartheta} H_i(\underline{X}_j^{n_j}; (M_1) \rightarrow H_i(\underline{X}_j^{n_j}; M) \rightarrow .$ ” On page 765, lines 18–19 should read, “[One can ignore the finite length submodule of M , if there is one.]” and line 22 should read “ M has a submodule M' which is a direct sum of cyclic modules” On page 766, Ref. 8 should read “P. MONSKY, The Hilbert–Kunz Function, *Math. Ann.* **263** (1983), 43–49” and Ref. 11 should read “J. P. SERRE, “Algèbre locale: Multiplicités,” 3rd ed., Lecture Notes in Math., Vol. 11, Springer-Verlag, New York/Berlin, 1975.